Calendar of Events

Tuesday, November 5, 1985

7:30PM ATR8000 & CP/M SIG

At Joe Kasper's home 782-9041

Saturday, November 16, 1985

Ambruster School Meeting

2PM C lang class Rm 107 north

2PM BASIC class Rm 107 south

2PM 520ST SIG Rm 110

2:15PM BBS Workshop Rm 109

3:30PM The Adventure Experience

by Sandy Sarocki & David Cohen

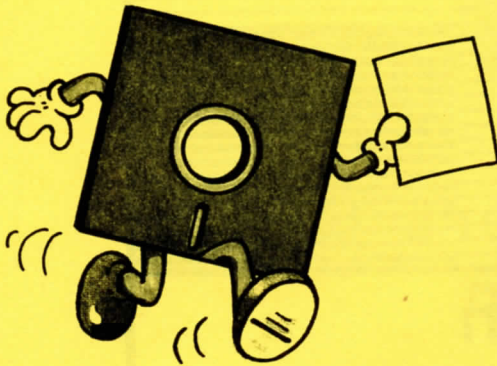4:30PM Business Meeting

Thursday, November 21st,1985

Board Meeting Denny's 2933 S 108th

FROM THE DISK OF
Dave Frazer

For you intrepid software collectors the CP/M world has a large network of Public Domain Software Exchange Systems. On the Compu-Serve CP/M SIG is a list of these systems throughout the United States and Canada. This group of computer hobbyist make sure that we have never ending supply of software to download for our Z80 based machines.

I have included a list of Wisconsin BBS systems which are part of this group at the bottom of this page. I have provided Joe Kasper with the entire 29 page listing of systems. He will have it available for your viewing the next ATR meeting.

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Another information server has joined the arena of online systems. General Electric is offering the GE information network after hours at attractive rates. The network [called GEnie] will be available in the evening, on weekends and on holidays for $5.00 per hour of connect time. The same rate applies for both 300 and 1200 BAUD connections. They will offer services similar to Compu-Serve, The Source and Delphi. GE plans on have and ATARI section with a bulletin board, file upload and download areas, conferencing etc. You can also use the GE E-Mail network. Look for information and demonstration signon codes in the computer magazines.

DELPHI has opened an ATARI SIG on their network. The SYSOPs for the DELPHI ATARI SIG are the same folks keeping control over the Compu-Serve ATARI SIG. I look for the same file to show up on DELPHI. DELPHI charges $6 for both 300 and 1200 BAUD service during non-prime periods. They also support 2400 BAUD service at a higher price. (Compu-Serve and The Source charge a higher price for 1200 BAUD service. DELPHI and GE may force them to reprice their services.)

We are obtaining free sign-up kits for DELPHI. Watch our BBS for more information as it becomes available.

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Two things for sure: 1) Our best programs are presented by our members. Just consider October's excellent meeting on music and 2) Carl keeps finding the best from our members for us. This month's program on adventure games is a must see program. David Cohen and Sandy Sarocki are masters at the art.

```
=============================================================================
                              [Wisconsin]
    Fort Fone File Folder ............................. (414) 563-9932
        Al Jewer, Ron Fowler, Bill Whitford; (3B;40M); MEX program
        support, CP/M utilities, BDS C, Voice I/O, ZCPR3 & more;
        (Type   WALLCHRT for system layout after exiting BBS);  (Ft.
        Atkinson) (V:10/85)
    North Central RCP/M ............................... (715) 362-3444
        Ryugen Fisher; (3B;?K);  Running on a NEC PC8801. Oriented
        to   help users of all NEC models. Programs from Japan as
        well    as    usual public domain programs.  (Rhinelander)
        (V:10/85)
    Power Board ...................................... (608) 251-3494
        Maurice Thaler, Carl Williamson, Peter Daly; (3B;20M);Running
        on a Televideo 816 using ROS32A.  Both CP/M and MS-DOS
        software.  High level languages. (Madison) (V:10/85)
=============================================================================
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CHRIS CRAWFORDS ASSEMBLER LESSON

EXCLUSIVELY FOR USE OF WORLDWIDE USERS NETWORK

LESSON FOUR: BRANCHING

One of the most important ideas in computing is the concept of conditional execution. This is the ability of the program to execute different routines depending on conditions at the time of execution.

The significance of this capability is best realized by considering how programs would operate in its absence. A program without conditional execution would not be able to change its program flow in response to conditions.

In other words, it would always execute exactly the same code in exactly the same order. Every run of the program would follow exactly the same sequence and perform exactly the same operations. Not very interesting, right?

To get a grip on conditional execution, we need to look at it in its simplest expression. The simplest type of conditional execution is binary in nature. We have a chunk of code; the 6502 will either execute it or it will not execute it. The decision is made on the basis of a boolean value; a true value will tell us to execute the chunk, while a false value will tell the 6502 not to execute the chunk.

The basic mechanism for doing this is through an instruction that performs a transfer of control. This involves nothing more than altering the program counter. You may recall that the program counter is a register in the 6502 that points to the address of the currently executed instruction.

When that instruction has been executed, the program counter is increased by the length of the instruction (1,2, or 3 bytes, depending on the instruction). It now points to the next instruction. This little system allows the 6502 to step through a program in sequence.

But there are also instructions that will alter the value of the program counter, alowing the 6502 to jump to another area of memory and another part of the program. The simplest of these is the JMP instruction. It takes the form JMP LABEL.

This loads the value of the LABEL into the program counter. Its effect is to make the 6502 jump to the address of LABEL and continue execution from there. It is directly analagous to a GOTO instruction in Basic.

For conditional execution we need something more. We need the 6502 to have capability to make a binary decision based on a binary value. The solution used by the 6502 involves flags.
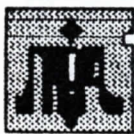
CHRIS CRAWFORDS ASSEMBLER LESSON

These are single-bit Boolean values stored together in a single byte of the 6502 called the processor status register (SR).

The status register is eight bits wide but stores only seven flags. These seven flags are labelled N,V, B, D, I, Z, and C. You have aready encountered the C (Carry) flag and the D (Decimal) flag. In this chapter, we are concerned only with the N, V, Z, and C flags.

The magic instruction that makes possible conditional execution can take many forms. Its general form is Bfv LABEL. The B stands for "branch". The "f" stands for a flag, and the "v" stands for the value of the flag, either true or false. However, in this case, we do not use the terminology "true or false".

Instead we use the terms "set" or "clear". "Set" means the same thing as "1" or "true", while "clear" means "0" or "false". The label is the address to which the 6502 should branch if the condition is satisfied. If the condition is not satisfied, then the 6502 will simply skip this branch instruction and go to the following instruction.

For example, suppose that we have the following instruction sequence:

```
           LDA        #0
           BCS        KARELIA
           LDA        #5
KARELIA    STA        FISH
```

This will first load the accumulator with a zero. Then the 6502 encounters the BCS ("Branch on Carry Set") instruction. It looks at the Carry flag. If this flag is set then the 6502 will indeed branch to the label KARELIA. (For all you geography buffs, Karelia used to be in Finland.) In other words, if the Carry flag is set, the 6502 will skip over the LDA #5 instruction. Thus, a zero will be stored into FISH.

However, if the Carry flag is clear, then the 6502 will not take the branch. It will instead continue executing the next instruction, which will load a 5 into the accumulator. Then it will come to the label KARELIA and store that 5 into FISH. Thus, the value of the Carry flag determines whether a zero or a five is stored into FISH.

The converse of BCS is BCC ("Branch on Carry Clear"). This will cause the 6502 to take the branch if the Carry flag is clear.

There is also a pair of similar instructions for the V-flag. These are BVS and BVC. They will cause the 6502 to branch on the value of the V-flag.
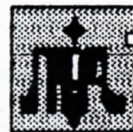
CHRIS CRAWFORDS ASSEMBLER LESSON

Now the situation gets unncessarily confusing. The instructions for the Z-flag should be BZS and BZC -- "Branch on Z Set" and "Branch on Z Clear". Unfortunately, the dumb designer of the 6502 thought he would get cute at this point, so instead he called these instructions BEQ and BNE, for "Branch on Equal" and "Branch on Not Equal". He never mentioned what he thought is supposed to be equal to what. We're stuck with it, so make the best of it.

Just remember what these instructions really mean BZS and BZC. If you think in terms of the Z-flag, it will work out just fine. If you try to think in terms of equal or not equal, your attention will be diverted from the real truth of the matter and you may make mistakes. So keep your eye on the ball and think in terms of Z!

The next pair of branch instructions use the N-flag. These are even more insidious than the previous two. They are called BMI and BPL, meaning "Branch on Minus" and "Branch on Plus".

At first glance, these appear to be reasonable substitutions for BNS and BNC. After all, if you load the accumulator with a signed number, and the number is negative, then the N-flag will be set, while if the number is positive, the N-flag will be clear.

Thus, it would seem that BMI is truly equivalent to BNS and BPL is truly equivalent to BNC. This is the source of many a bug in beginner's programs. Consider the following fragment of code:

```
LDA    FISH
SEC
SBC    BOAT
BPL    POSANSR
```

This code is supposed to branch to POSANSR if FISH is greater than GOAT. And indeed, if FISH is greater than GOAT, then when you subtract GOAT from FISH, you will get a positive result, right? Not necessarily!

Suppose, for example, that the value in FISH is $C1 and the value in GOAT is 1. When the 6502 subtracts GOAT from FISH, it will get a result of $C0. Note that the highest bit of $C0 is set to 1. This is the value that will go into the N-flag. In other words, even though FISH is greater than GOAT, the 6502 will not take the branch, and this code will fail.

The moral of his tale is, don't take those instructions literally. They are misleadingly named. When you see BPL, don't think "Branch on Plus", think "Branch on N Clear". Otherwise, you'll screw up someday.

By the way, the correct branch to use in the above problem is BCS.
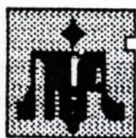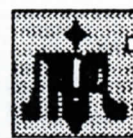
CHRIS CRAWFORDS ASSEMBLER LESSON

Now for a catch with the branch instructions. A JMP instruction is a simple absolute jump -- you specify the target address and it goes there. The designers of the 6502 realized that the vast majority of branch instructions only go a short distance They therefore decided to implement the branch instruction as a relative branch.

The machine code doesn't specify the target of the branch, it only specifies an offset. In other words, instead of saying, "jump there", it says, "jump so many bytes forward or backward." The allowable range is 126 bytes forward or backward. Thus, you can't branch anywhere you want, only to nearby locations, If you must branch further, reverse the logic of the branch and use the branch to skip over a JMP statement.

Omniview XE. by David Young
Reviewed by Peter Kurth

Omniview XE now has several new features which solve the worst problems associated with the 130XE:it won't run so much of the existing ATARI Software! Omniview does solve this problem by having an ultra compatible 400/800 style OS which will copy itself into ram, freeing up the $C000 page. In addition, Omniview XE has a resident ram disk handler which will allow you to use the extra 64k of ram in the XE as an ultra fast disk drive. Add the other outstanding features of Omniview XE, namely,80column emulation and the fastchip floating point package for significantly faster math operations. This package works with letter/Data Perfect, Basic, Mac65, Atr8000 C/PM." Other improvements are option key hold down for basic with power up, And Ctrl-1 is replaced by the Help key.

Omniview EX is harder to install in the 130EX computer. Because you will have to unsolder the OS chip and install the new OS.(David Young and I, both recommend that you install a 28 pin socket before installing the new OS.)

Some of the limitations are in basic the program code can only be 80column,it will display more than 80column code on the screen, but you can not write the code in more than 80charters per line, this is only a minor inconvenience. Because you can write in 40 and change to 80 for reading then change back to 40 for more writing. The most limiting feature of all is there is not much software support for this great OS especially in the communications software. To have a full featured communications program for this type of 80column would help a great deal.

I paid about $30 for this chip at a local computer supply house and do not regret spending the money on this up grade for the 130XE this is the OS that ATARI SHOULD USE IN THE COMPUTER. It would make life a lot easier.

THE FUZZY NOLAN REVIEW

BY GARY NOLAN

IF YOU SIT VEERRY, VEERRY STILL AND LISTEN REAL HARD
(YOU HEAR SOME VERY INTERESTING THINGS!)

Is the ST ("Jackintosh") the boogie-man in Apple's closet? To hear some people talk, Apple is making all this noise about lawsuits and GEM patent infringments to scare people away from buying an Atari ST. Well this kind of scare tactic is called the Pac-Man method of legal intimidation. Too bad it won't work any better for Apple than it did for the "old" Atari when they went around rattling their chains a few years back. All Apple will do is send more people into the IBM camp than to a Mac dealer. So DRI changes the "appearance" of GEM DeskTop and discards (trashcans) the little cutesy-poo icons and cleans up the screen a might. What's Big Red gonna' claim next, that they invented the mouse? Daddy Jack is ready to challenge them if they try to claim (lawsuit-wise) to own the rights to too much of the present technology. After all most of the Mac ideas were developed by the people at Xerox but never put into a product that sold in the marketplace. That is until those people went to work for Apple. Why I remember using a track-ball device (upsidedown mouse to you youngins') on a mainframe computer about 20 year ago. Heck we even used a type of windowing. Gee that makes me sound old, don't it?

Atari denies that there has been a higher than usual return rate on the ST's. American said that they had about half a dozen and not one of them worked. Seemed that a chip was not seated properly. The RF shield on the motherboard is soldered down and they where not about to mess with it, so back

they went. They have not decided if they are going to handle them anymore. This just serves to point how fragile Atari's position is in the marketplace. Some people are willing to give Daddy Jack a chance. Some ONLY ONE, some a couple and some like the erstwhile Tripp Hawkins (don't worry Dave, I won't go into it now even if it is true)(Dave has this unnatural fear of liable lawsuits) who won't give Atari the time of day. At least not until the ST's start selling like hotcakes. And speaking of selling, Atari has admitted that this will probably not be the best Christmas selling season ever. Sales projections have been revised downward a tad. A couple of months ago an official of the big A was giving some pie-in-the-sky figures of 30,000 at the end of August (possible) and 300,000 by the end of the year. Well the latest figures attributed to Daddy Jack's #1 son are that Atari sold 10,000 in three months and prospects for the remaining two months are "weak". But just wait till next year. (And you wondered where Bart Starr went to) If all this sounds a little negative on my part never fear, I still have the faith children. It's just that I've grown a little tired of the heathens rattleing their cages. It all fits into my timetable of a renewed interest come the spring of '86 on the part of the masses. The unbelievers will become caught up in the Second Coming of the "home/personal/low-end/whatever-you-call-it" computers. That's about how long it'll take the ST and Amiga to get the bugs worked out and the honest and productive software on the shelves and their goodness known to all.

James Copland has left his position as VP of marketing at Atari to become an independent software marketer. Mr. Copland will market software for all computers especially the ST and Amiga. Nice touch!

The following "good stuff" is from Atari itself, so listen up! Basic has been finalized and should be here real soon along with STwriter and NEOchrome a program that allows you to have 600 x
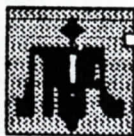
400 res and color too. NEO and STwriter will be made available to St owners at no cost. The 32-bit computer is still in development along with an expansion device for the ST. The 32-bit might take the form of a transportable "workstation". And they are "considering" a double density drive. Heck wouldn't want to them to take a chance on some new fangled idea before its been tested out, would ja'? All this and a larger hard disk too.

GEE, THAT DIDN'T TAKE LONG AT ALL

Those of you at the last meeting heard Dave mention that Computer Direct was selling a Zenith ZVM131 color monitor for $140 + shipping. It sounded like a good deal and since I've was in the market for one I ordered one on the Monday after the meeting. Lo and behold on Wed. the UPS man tried to lay it on me. Too bad I wasn't home. After having them divert it to my place of employment the next day I took it home and set it up. Not bad for $155 total. Specs are as follows: RGB, composite video and audio input with video/audio out. The video out jack also is used as a boosted video in jack, and it really, really works. It boosted the low XL luminance signal to decent levels. The first thing I put up on the screen was the German demo with those high res color displays. The picture was sharp and crisp with great color. But alas, neither the 80 col. display from Omniview nor the ATR cartridge was acceptable or really readable. Maybe if I tried the RGB mod to the trusty ol' 800 from a recent newsletter? Project #1009 was added to **the list of things to be tried** (I'm currently on #15). Even when I switched to the "green screen" mode the display was hard to read. Maybe if I sat back a little farther, a little better but still.... Maybe if I got glasses, na I've got a whole kitchen full and they haven't helped me see better. Besides, the Pepsi runs down your face when you hold them up to your eyes and the ice cubes make everything look squiggley. But all in all a darn good monitor for

the money. And in 40 col mode with the green screen on, a good display for data work. I'll bring it along to the next meeting for you to look see. Hmmmm, maybe if I move the RGB mod up to project 20, it only took me two years to move the reset switch to the front of my ATR.

AND SPEAKING OF ATR'S

One of the members at the last meeting asked me about the 3 1/2" drive I bought a couple of months ago. He wanted to know if I had gotten it to work with my system. I had almost forgotten about it after not being able to use it with CP/M and put it up on the shelf. With the config file for CP/M on the ATR when you specify an 80 track drive, it automatically assumes it to be double sided. The 3 1/2" drive I have is single sided (hey, for $99 I didnt argue the point). Some of the new DOS's for the Atari computers allow you to configure a drive for single or double sided regardless of tracks per side. In a sudden rush of energy I hooked the drive up to the spare slot in one of my drive cabinets and tried it out with MYDOS. Son-of-a-gun it worked! Another new toy to play with while I compute. Now I have two SSDD drives in one case and a 5" DSDD / 3 1/2" SSDD in the other. The 3 1/2" is really quad density because on one side I have 360K of formated storage. So thanks George for peaking my interest in the small drive and to answer your question, YES it will work with an alternate Atari DOS.

IF YOU GOT ONE, OR GONNA GET ONE -- BE THERE!
(ST PEOPLE, UNITE)

There will be a meeting of all of those people interested in forming an ST SIG at the next meeting. As the man said, "If you got one, or gonna get one ..." you might want to show up and hepl us determine if there is enough interest in forming a SIG at this time. Come to the meeting and ask for the ST SIG meeting room and I'll be waiting. Hope that doesn't scare too many of you off.
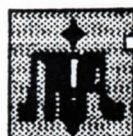
THE ATARI 800-PLUS 256K
288K Total Memory upgrade for the 800

by David G. Byrd, Las Vegas, NV
[This article is reprinted from the SNACC - Southern Nevada Atari Computer Club - newsletter.]

I am one of these incorrigible hardware hackers who is never satisfied with simply operating an appliance computer with purchased software. I am fascinated by taking a commercial product and trying to extend its capabilities beyond those the original supplier provided.

After reading the "48/64K upgrade for your 400" by Claus Buchhlotz, I was inspired to design a similar upgrade for the Atari 800. Full credit for the installation of the 5V only chips in the 16K board goes to Claus and the MACE users group.

This article will describe how to modify, test and use a 256K memory board in the middle slot of the 800. This will cost you under $50, a few hours of your time and give you a total of 288K of RAM.

All logic additions and trace cutting is limited to the memory board, so you may want pick up a "spare" to hack on. This will allow you to return to a "stock" 800 if you should desire. One jumper is installed on the Personality Module (ROM), and seven backplane jumpers are necessary to provide the additional controls.

GETTING STARTED

Remove the middle memory board (or use the spare) and look at the memory board. The eight chips along the top are the RAM chips. The other four chips are the addressing circuitry. The edge pin connectors at the bottom are labeled as in Fig.2.

The first step is to eliminate the 12V and -5V sources n the board and to move the 5V source to where the 12V used to be. As shown in Fig.3, cut the trace going from pin "X" of the board's edge connector to the capacitor C521. also cut the trace going from edge pin "Y" to

C523. Cut the traces cleanly and completely. Be careful not to slip and damage adjacent traces.

Now remove the capacitors C521 and C523. The traces coming from pin "W" carries 5V. Using a short piece of wire make a solder bridge between this trace and the old 12V and -5V traces, at the point where C521 and C523 used to be (see Fig.2). Next, remove the eight capacitors C503, C505, C507, C511, C513, C515 and C517, which are usually in a row along the top of the board.

We now have 5V going to pins 1, 8 and 9 of the RAM sockets. Remove the eight 16K RAM chips and insert the new 256K chips in their place, being sure to properly orient their notched ends. With an ohmmeter make sure that there is NO connection between edge pin "Y" and pin 8 of the chips, nor should there be any connection between any two of the edge pins "W", "X" and "Y".

If all has gone well the board should function like a 16K memory board, since the addressing circuitry has not been altered.

Put the modified memory board in the middle memory slot of your 800, and check to see if it functions normally. The blue screen should appear quickly. If not recheck all modifications made so far.

Now take the 5V supply off pins 1 and 9 of the RAM chips. To do this, cut the two rightmost wide traces on the chip side of the board (see Fig.4).

Pick up a new 74LS158 chip, which is the same as the chips Z503 and Z504 on the memory board. With a needlenose pliers, carefully bend up all pins EXCEPT 1, 8, 15 and 16 (see Fig.5). Remove chip Z503 and place the new chip on top so that the four pins listed above touch the same four pins on the lower chip. Carefully solder each of the four pairs together, being careful not to get too much solder on the end of each pin. Now insert the pair in socket Z503.

The second new 74LS158 chip is to be mounted in the same fashion on top of Z504, except that pin 1 is also elevated and NOT soldered. Now insert this pair in socket Z504.
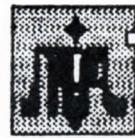
Next we will prepare the additional chips for mounting. These chips will be mounted "dead bug" style, so it is a good idea to put a stick-on label on the underside of each chip indicating its type and the location of pin 1.

Install the four new chips in the vacant area below the memory chips. I used "Super Glue" to attach them. Make sure you get them in the right place the first time.

Now wire the new chips per the diagram in Fig.6. Connect 5V and ground pins first to each dead-bug chip. Convenient connection points for 5V and ground are the left and right ends of each capacitor located directly below each RAM chip. Connect each chip individually with short wires.

Connect a temporary jumper from pin "V" to "W".

LETS CHECK OUR PROGRESS

Return the memory board to the middle slot for testing as a 16K board. If the blue screen dosen't come up quickly, turn the computer off immediately and check your work.

If it checks out OK, remove the temporary jumper connecting pins "V" and "W", and cut the tracks connecting pins "M" to "N", "P" to "R" and "S" to "T".

The 256K board is complete, so put it aside for now.

STANDARD MEMORY BOARD MOD

Remove the two remaining 16K memory boards from the computer, and remove the case. On the reverse side of the board, find the tracks connecting "N" to "M", "P" to "R" and "S" to "T". Cut these tracks on both 16K boards.

If you wish, you may reinstall these boards in their cases. (Not necessary)

PERSONALITY (ROM) BOARD MOD

Remove the ROM (Operating System) board form the first slot and take it out of the case. Find Z401 and connect a jumper between Z401 pin 7 and pin 20 (the only unused pin) of the card edge.

Again, if you wish, put the board back in the case.

NOW THE BACKPLANE JUMPERS

Now it will be necessary to get to the 800 motherboard backplane. This requires removal of the case.

First remove all cables from the computer. Turn the 800 over, with the game ports facing you, and remove the five recessed phillips screws holding the bottom cover. It may now be removed by lifting at the rear and then sliding it forward to clear the game port connectors. This will expose the bottom RF shield.

Remove the nine phillips screws holding the bottom RF shield and another board in the RF cage. Remove the phillips screws on the sides of the RF cage. Gently lift the front edge of the mother board and power supply boards and disconnect the keyboard ribbon cable, the power supply cable (note its orientation) and the speaker cable. Separate the power supply board and the mother board. The mother board and lower RF shield may now be lifted up and out of the RF cage. Now remove the CPU card.

The bottom shield must be removed. It is attached with four plastic expansion pins. Use a screwdriver to push the center pin out until it can be removed from the bottom. Now remove the outer pins.

The bottom shield will lift off and expose the entire backplane area under the card cage.

Using Fig.7 as a guide, install the seven jumpers using a fine, solid conductor, insulated wire.

Recheck your work with particular attention to the correct pins, solder bridges and shorts.

Reinstall the bottom shield and replace the plastic pins.

REASSEMBLY

Reinstall the CPU board, place the mother board in the RF cage and re-insert the power supply connector (remember the proper orientation). Reconnect the keyboard cable and speaker cable. Replace the screws in the RF cage

800 PLUS 256K PARTS LIST

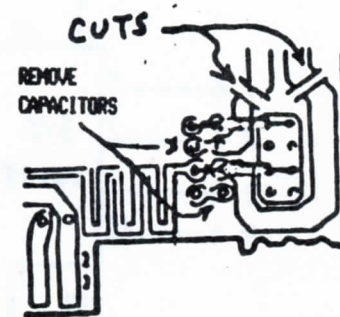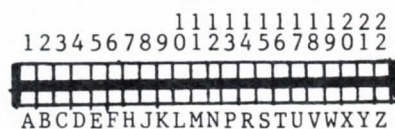|		
ZX1	74LS02	QUAD NOR GATE
ZX2	74LS175	QUAD LATCH
ZX3	74LS86	QUAD EX-OR
ZX4-5	74LS158	QUAD MULTIPLEXER
ZX6	74LS112	DUAL FLIP FLOP
ZX7-14	41256	DRAM (150ns)
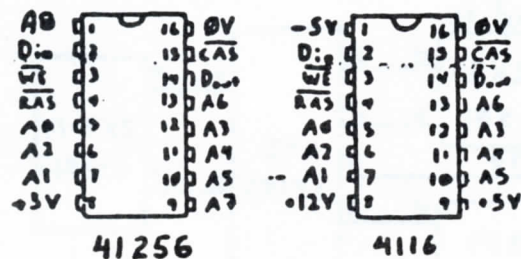
FIG 1 - PINOUT COMPARISON OF 256K
AND 16K-BIT RAMS

CHIP SIDE

FIG 2 - CARD EDGE CONNECTOR
PIN ASSIGNMENTS
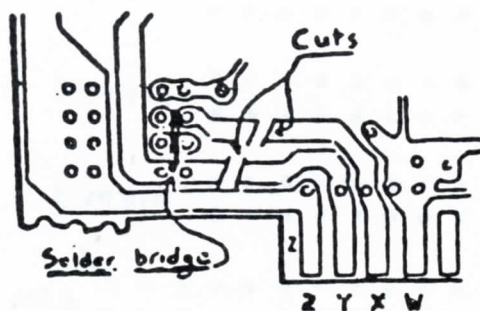
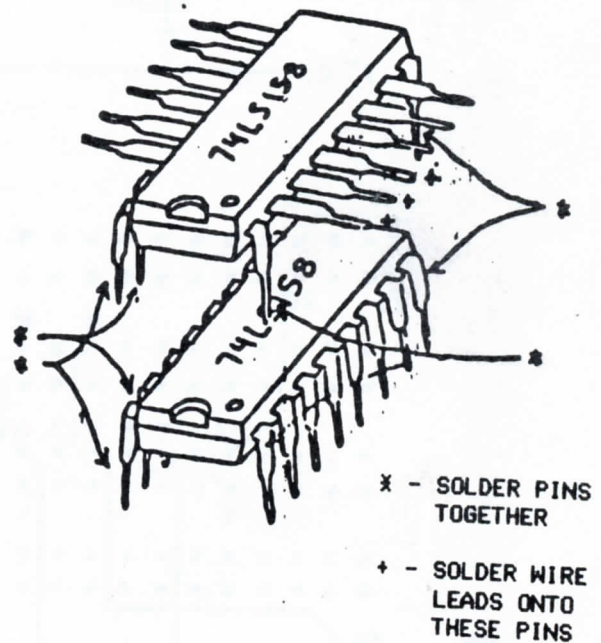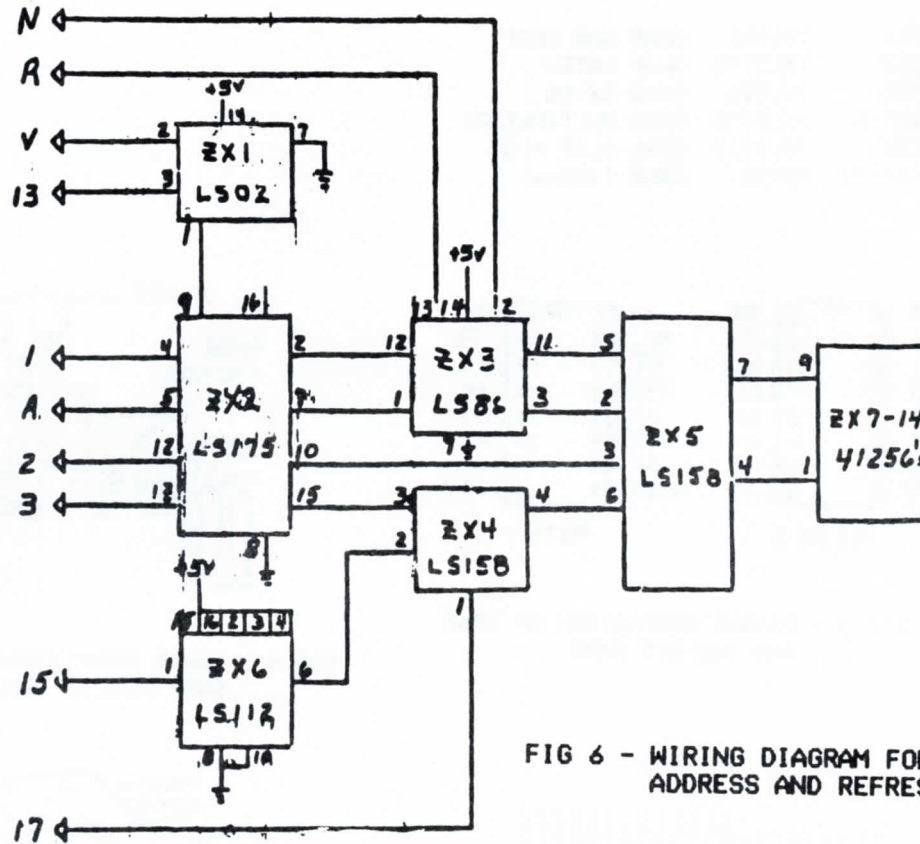FIG 3 - LOWER LEFT CORNER OF THE
SOLDER SIDE OF MEMORY BOARD

FIG 4 - LOWER RIGHT CORNER OF THE
CHIP SIDE OF MEMORY BOARD

$\times$ - SOLDER PINS
TOGETHER

+ - SOLDER WIRE
LEADS ONTO
THESE PINS

FIG 5 - PIGGYBACK ARRANGMENT

FIG 6 – WIRING DIAGRAM FOR 256K BOARD
ADDRESS AND REFRESH ADDITION
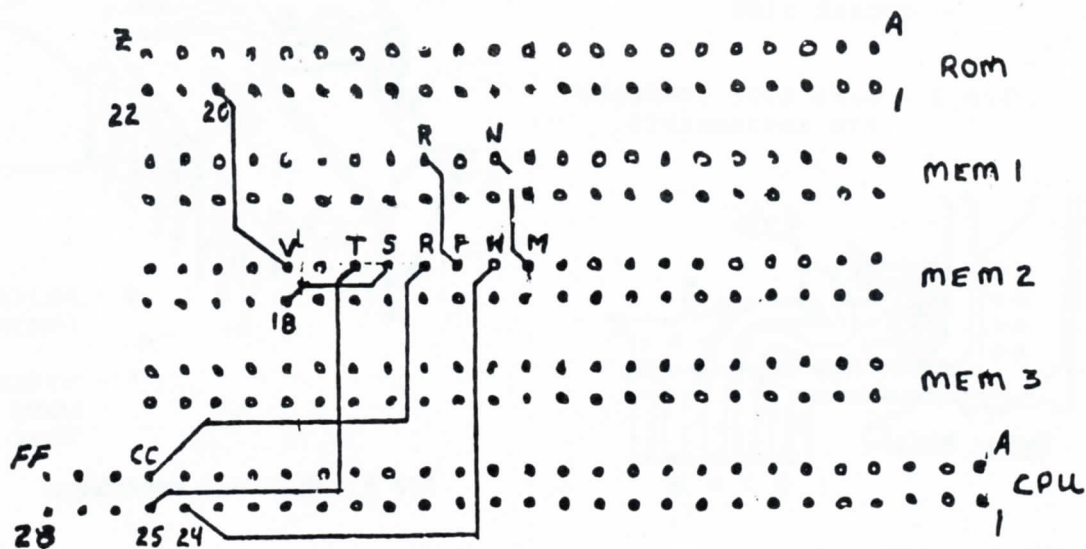
FIG 7 – BACKPLANE JUMPERS

and then the nine screws holding the bottom shield. Reinstall the bottom cover and replace the five phillips screws. The 800-PLUS modification is now complete.

NOW FOR THE LAST TEST

Turn the 800 upright and reinstall all cards making sure the 256K memory board is in the middle slot. Replace the top cover and close the cartridge lid.

Again power up the computer and watch for the blue screen to appear. As before, if it does not appear, turn off the machine and check your work.

If all is normal, congratulations, you now have an 800 with 48K of normal user memory and 208K of extended memory.

EXTENDED MEMORY DISK EMULATOR (EMDE/OS)

The most effective use of extended memory is a disk emulator (virtual disk). I used GENEMDE, (by H. V. Stacey), to extend Atari DOS II, Ver. 2.0S. This produces EMDE/OS which was written specifically for the 800 Plus mod.. It effectively provides another "very fast" disk drive. DUP.SYS and MEM.SAV may be made resident on the virtual disk, and switching application program to DOS and back again will occur almost instantaneously. With 288K of total memory the virtual disk can be configured as a full 720 sector, single or double density, disk.

Stace has allowed me to provide GENEMDE to all individuals performing this modification. In addition I will include the EMDE documentation and a BASIC (slow) Extended Memory Diagnostic Program.

SUMMARY

The possibilities for the use of this extended memory are many and varied. Very fast disk reads and writes can speed up Data Base searches.

Use of the "virtual disk" when running AMODEM will significantly reduce the upload and download times (and your phone bills).

Disk duping becomes a breeze when you can use the "J" (Duplicate Disk) or "C" (Copy Files, *.*) to move data to and from the virtual disk.

Programs that leave your drive spinning for extended periods can often be modified to perform much faster and with no wear on the drive.

I would be very interested in the uses you find. That is part of the fun and challenge. Send SNACC (and MILATARI) a copy.

* * * * * * * * * * * * *

HIDDEN TREASURES

For owners of Preppie and Preppie2. Press these key combinations (before the start of each game) for interesting results:
[SHIFT-CONTROL-M]   =TOGGLE MUSIC ON/OFF
[SHIFT-CONTROL-ATARI] =SECRET START LEVEL
[SHIFT-CONTROL-INSERT]=TOGGLE 3 / 5 LIVES
FROM ACE (NSW), Australia

MINER 2049er
Enter the phone number of Big Five Software (2137826861) at any time while playing the game, then press SHIFT and the level number you want to go to. You can then continue to SHIFT-LEVEL as often as you wish, jumping from level to level.

Chicken press CONTROL-G.

Sea Dragon Put the joysticks in ports 3 and 4 then select your level.

EPYX games press OPTION after being killed.

ED- Do these people try everything or do they have inside info?
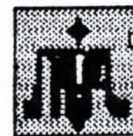
HARDCOPY REPORT
by Bill Feest

This is my first attempt at putting my ideas down on paper, so please be kind. It's really funny how fast you find you have nothing to say when you sit down to a blank blue screen, and have only a few hours to meet Roy's dead line.

The library has grown from two boxes of books and a couple of crumpled pieces of computer paper, to what you see now. I started bringing the library in my compact, I now use my three quarter ton van.

The library offers a wide range of Atari material, from some of the earliest Atari magazines to some of the latest in the Compute line of books. We have repair manuals for the 400, 800, 810 and 410 Recorder. There are newsletters from clubs all over the world and reference manuals for the most advanced programmers.

I am happy to say that most of the growth of the library is due to the generosity of it's members. Milatari's board of directors has been as generous as possible with it's meager funds, with the purchase of five new books. The library can only be as good as the membership that supports it.

With the growth of the library has also come more organization, isn't that always the case. Withdrawals to fill out, returns to turn in, late book lists to check out. I can only say I am sorry for the inconvenience, but to make it fair for all the membership we must have rules to work with, the alternative is kayos.

My latest project has been the setting up of the reference library. Right now this consists of just one shelf. You say that one shelf doesn't sound like much of library, well this one is twenty two feet long. Right now we have a fairly complete set of Compute magazines 1981-1984. My goal is to have one copy of everything written about Atari on this shelf, should it fill up I'd be happy to put up another self. So if you have been thinking of contributing to the library but were afraid of not being able to find that article you found so interesting, but didn't have time to study; well now you'll have a place to find it. Just think how happy your spouse will be, finding all those old magazines gone.

Anyone interested in or needing help from the library, please feel free in contacting me. See ya next meeting.

BASIC Cartridge
Revision C
by Rolly Herman

I have just learned that the BASIC Revision C Cartridge is still available from Atari.

The 400 and 800 computers originally came with a BASIC cartridge that was Revision A. There were some bugs in it, so the 800XL had BASIC Revision B built in. This still has bugs. The 130XE has Revision C built in and most of the bugs are gone.

Therefore, users of the 800, and 800XL machines could benefit from the use of the Revision C cartridge.

Atari informed me that if you have an 800XL and you send them the sales slip they will send you the Revision C cartridge free of charge. All others will have to send a check for $15.00.

Write to:

ATARI INC.
P.O. BOX 61657
SUNNYVALE, CA 94088
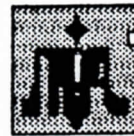
JOIN THE CHRISTMAS CONTEST

MILATARI is sponsoring its Second Holiday Programing Contest! The contest is open to members ONLY. There will be three age groups, under 12, 12 to 16 and 17 and older.

Judging will be done by those members attending the December Ambruster meeting.

Judging will be based on originality, creativity, playability, visual and sound effects, holiday theme and presentation. One vote per membership per age group will be allowed.

The only catch is that you must bring your own equipment to demonstrate your program, or you can arrange to share a system with someone else. If it is impossible to provide your own equipment contact one of the Board members to see if they can assist you in finding a system to share. Please register your entry as soon as possible with Carl Mielcarek or other committee members.

All entries should be original programs. You may use commercial programs to build your displays or music in the program, but the final program must have been created by you the member.

All entries remain the property of the authors, although donation to the club library is encouraged.

First place prizes will be awarded at the meeting and will probably be a combination of software and the Famous club T-shirt. Winners names will also appear in the January newsletter! Remember to select a holiday theme befitting the season.

Entries can be visual displays, musical in nature, interactive or games.

So get going on the winning program and Good Luck.

Ladies and gentlemen ...... Start - Your - ATARI's
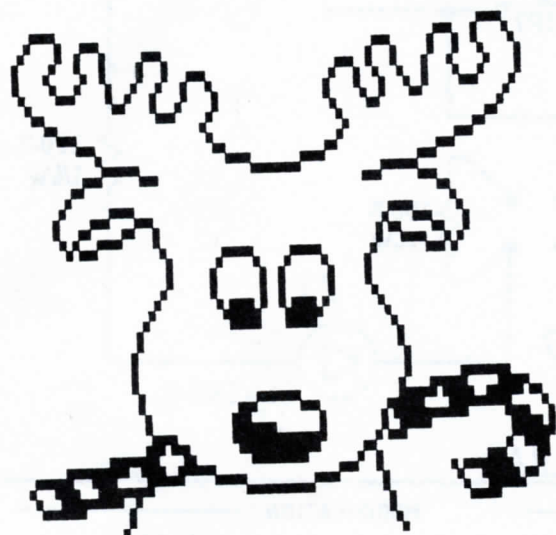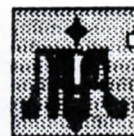
1050

by Bill Fletcher
Queensland ACE

(Editor's note: Do not attempt to do this drive modification unless you have had experience doing soldering and wiring. The SLCC JOURNAL is not responsible for the accuracy of this modification or damage caused by this. There are other versions of this switch available if this does not suit your needs.)

This month's modification adds a write-protect bypass switch to the 1050 disk drive and will save you having to constantly remove and re-stick write-protect labels. A flashing LED (Light Emitting Diode) is recommended so that you will be aware that your write-protected disk can be written to.

Undo the four screws in the drives casing and lift off the cover. Choose a suitable place to mount the switch and LED before starting work. The LED would naturally be on the front face of the drive but the switch may be mounted anywhere it will not foul the mechanism or touch any of the components.

Once you have decided this, find the strap (link) marked "JP7" which is situated in the middle of the board, just behind "U10" (one of the chips). Remove this link. The front connection of this link will be the supply point for the CENTER pole of your switch. The other side is connected to one of the end terminals of the same pole of the switch.

Connect the poles of the switch as shown in the circuit diagram below, 5 volts can be found at "TP13" located near the middle of the board, approximately a quarter of the way from the rear. The earth can be connected to "TP15" located near "TP13".

Ensure correct polarity of the LED. If you can not determine which way it should go put it in and if it fails to light reverse the polarity.

The 100 Ohm resistor is there as a safeguard. It is recommended but not essential. The more adventurous of you could get a 3 position, 3 pole switch wired as follows:

POSITION 1 - bypasses "JP7" completely making the system believe the disk is protected.

POSITION 2 - system normal (acts as "JP7").

POSITION 3 - as shown here.
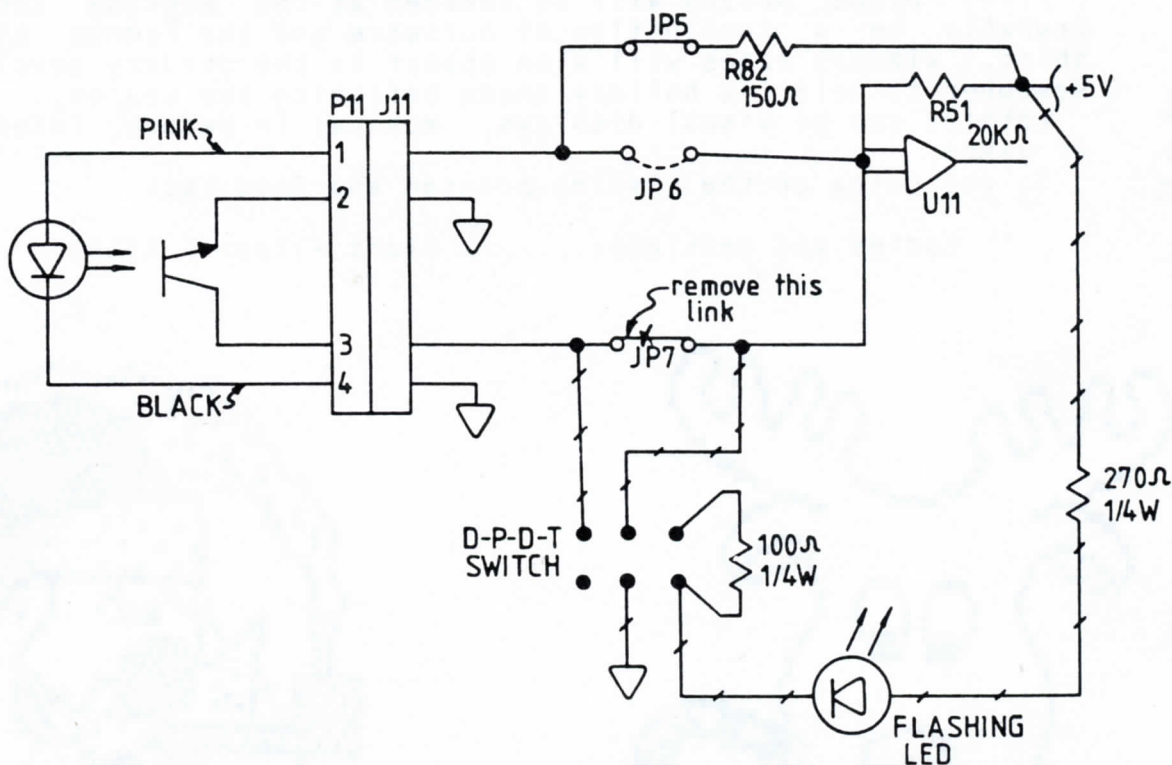
DIAGRAM

KEY:- EXISTING CIRCUIT ——— MODIFICATION —→

SWITCH   LED   EARTH   RESISTOR   Light Emitting Diode polarities. [-ve is short lead]
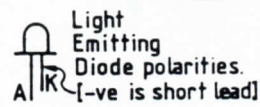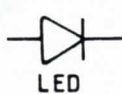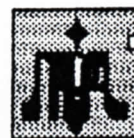
From: Atari Computer Club of Toledo
        The Man from A.S.C.I.I.
            Reports: #985
        E.Z. Hintz reporting...

        Send all questions to:
        Man from A.S.C.I.I.
        c/o Robert P. Wrobel
            606 Carlton
        Toledo, Ohio 43609

ADVENTURE: RETURN OF HERACLES
QUESTION: What hero will give me the highest score?
HINT: Choose neither man nor woman; and with a lot of luck you can score over 9700.

ADVENTURE: WISHBRINGER
HINT: There are two ways: 1) Nuts to you! 2) getty-up!

ADVENTURE: HITCHHIKERS
QUESTION: How do I stop the robot from getting the babel fish?
  INT: This ones takes some Rube Goldberg type of thinking.

If you ever find yourself with a blown Atari 9 volt power transformer. The following exerpt from Baron's MicroComputing Reports might help:

"The transformer case consists of two sections glued together. Find where the top and bottom are joined. Then, holding the transformer firmly (a vise helps), gently and slowly cut through the case along this line on all four sides with a hacksaw. Open the case and find the fuse, which has been solder in place. If it is blown, cut it out and solder in an exact replacement: a 5-amp "slow blow" fuse (approximately 50 cents at any electronics supply store). Make sure you get "in-line" fuses (fuses with "pigtales" on each end for soldering). Alternatively, you can buy, as we did, spring pigtails which are soldered inline and then slid over each end of the fuse. (This makes future replacements that much easier.) Reassemble the transformer and tape it shut with electrician's tape. If it still doesn't work (or if the fuse wasn't blown), the damage is more serious and you'll probably have to replace the transformer after all."

MILWAUKEE AREA ATARI USER'S GROUP AND NEWSLETTER INFORMATION

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Publications	Bill Feest	321-4314
	Milatari BBS	
	414-781-5710	

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Your contributions of articles are always welcome. You may submit your article on ATARI compatible cassette or diskette, on typewritten form or you can arrange with the editor to upload your file via modem. You can send Graphics eight or seven plus screens stored on disk in Micropainter or Micro Illustrator formats.

Other computer user groups may obtain copies of this newsletter on an exchange basis.

Milwaukee Area Atari User's Group

MILATARI is an independent, user education group which is not affiliated with ATARI INC. The newsletter is the official publication of MILATARI and is intended for the education of its members as well as for the dissemination of information concerning ATARI computer products.

MILATARI membership is open to individuals and families who are interested in using and programming ATARI computers. The membership includes a subscription to this newsletter and access to the club libraries. The annual membership fee is $15 for individuals or $20 for a family.

Vendors wishing to display and/or sell items at MILATARI meetings must make prior arrangements with the club vice president. Rates are $10 per meeting or $90 per year payable in advance.

All material in this newsletter not bearing a COPYRIGHT message may be reprinted in any form, provided that MILATARI and the author are given credit.

MILATARI ADVERTISING RATES

This newsletter will accept camera ready advertising copy from anyone supplying goods and services of interest to our membership.

Current paid members of MILATARI may place classified ads in the newsletter at no charge.

Advertising Rates

Full page	$37.50
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